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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/002,998	11/01/2001	Ana Belen Benitez-Jimenez	YOR920000785	3328

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EXAMINER	
BELL, MELTIN	
ART UNIT	**PAPER NUMBER**
2121	

DATE MAILED: 05/13/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/002,998	BENITEZ-JIMENEZ ET AL.	
	Examiner	Art Unit	
	Meltin Bell	2121	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-24 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-24 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on 01 November 2001 is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

This action is responsive to application **10/002,998** filed 11/01/01.

Claims 1-24 have been examined.

Priority

Applicant's claim for domestic priority against application number 60/246,052 filed **11/06/2000** under 35 U.S.C. 119(e) is acknowledged.

Drawings

The drawings have not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is required in correcting any errors of which applicant may become aware in the drawings.

The drawings are objected to because:

- Fig. 1, step 110 covers both information transfer directions between items 101 and 111. There should be a different step/item number for each direction as suggested from page 7, line 6 to page 8, line 13.
- Two different item numbers (e.g. 211, 212) were given to 'content relationship' in Fig. 2 when page 10, line 5 suggests one of them would read well as 'feature relationship'.

- Use of parentheses around figure item numbers (e.g. Fig. 4, items 403, 404 and 406) and in the specification starting on page 6, line 19 is inconsistent. The specification and figures would read well without the parentheses.
- Item 500 of page 12, line 16 is mislabeled or missing in Fig. 5.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

The specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is required in correcting any errors of which applicant may become aware in the specification.

The disclosure is objected to because of the following informalities:

- The use of the trademarks WORDNET, MPEG, XML and BIM have been noted in this application (specification: page 3, line 17 and page 12, lines 14-20, for examples). They should be capitalized wherever they appear and be accompanied by the generic terminology. Although the use of trademarks is permissible in patent applications, the proprietary nature of the marks should be respected and every effort made to prevent their use in any manner which might adversely affect their validity as trademarks.
- 'concepts' on page 1, line 9 would read well as 'semantic concepts'.
- 'content node' on page 15, line 14 would read well as 'content node 613'.

- The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed. The following title is suggested: Network for Describing Multimedia Information.

Appropriate correction is required.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1, 6, 12 and 14-16 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The language of the claims (e.g. "concepts", "words", "content", "relationships") raise a question as to whether the claims are directed merely to an abstract idea that is not tied to a technological art, environment or machine which would result in a practical application producing a concrete, useful, and tangible result to form the basis of statutory subject matter under 35 U.S.C. 101. For example, if claim 1 was amended to recite a computer-implemented method, it will be statutory in most cases since use of technology permits the function of the descriptive material to be realized.

Claim Rejections - 35 USC § 102

To expedite this application, a complete examination appears below, despite the presence of the rejection under 35 U.S.C. 101.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless -
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1 and 3-24 are rejected under 35 U.S.C. 102(e) as being anticipated by *Bergman et al* U.S. Patent Number 6,564,263 (Dated May 13, 2003; Filed December 3, 1999).

Regarding claim 1:

Bergman et al teaches,

- forming a network having nodes that represent semantic concepts (Fig. 9; column 9, lines 39-67, "In one multimedia...is illustrated in FIG. 9"; column 10, lines 11-29, "Preferably, each connection...the multimedia content")

- associating one or more words with one or more of the nodes (column 22, lines 40-67, "The video component...for the story")

- associating multimedia content with one or more of the nodes (Figs. 11-15; column 11, lines 1-11, "FIG. 12 illustrates an example...multiple fidelities may exist")

- representing relationships between the nodes as arcs between associated words and arcs between associated multimedia content (Figs. 5-6, 15; column 3, lines 17-51, "It is

a further...merging of objects, etc."; column 4, lines 20-27, "FIG. 5 is a logical...the present invention"; column 17, lines 49-59, "FIG. 5 shows that...ends after object D")

Regarding claim 3:

Bergman et al further teaches,

- relationships between semantic concepts and between associated content are based at least in part on audio and/or visual feature descriptor values (column 8, lines 42-46, "Feature Descriptors: These...the transformed data")

Regarding claim 4:

Bergman et al further teaches,

- extracting feature descriptors from multimedia content (column 8, lines 45-46, "Note that features...the transformed data"; column 9, lines 26-54, "the spatial or...to only metadata")

- computing similarity measures between descriptor values (column 13, lines 25-39, "The fundamental description...for computing distances")

Regarding claim 5

Bergman et al further teaches,

- the media network knowledge is represented using the ISO MPEG-7 Description Definition Language (column 14, lines 45-67, "The multimedia content...for a particular"; column 15, lines 1-3, "community (say Satellite...set of DTDs"; column 21, lines 65-67, "the InfoPyramid is...to client device"; column 22, lines 1-24, "characteristics and user...representation for MPEG-7")

Regarding claim 6:

Bergman et al teaches,

- accepting a query (column 22, lines 5-9, "While content negotiation...another for retrieval")

- matching the query to the words and multimedia content related to the concepts encoded in the media network knowledge representation (column 22, lines 9-16, "However, the content...of network/computational resources")

- navigating the relationship arcs of the concepts associated with matching words and multimedia content (column 23, lines 22-53, "As we have...limited display capabilities")

- retrieving related concepts, words, and multimedia content from the matched nodes or related nodes (Figs. 9, 11-14, 17-19; column 22, lines 26-39, "This application automatically...the full details")

Regarding claim 7:

The rejection of claim 6 is incorporated. Therefore, claim 7 is rejected under the same rationale as claim 6.

Regarding claim 8:

The rejection of claim 6 is incorporated. Therefore, claim 8 is rejected under the same rationale as claim 6.

Regarding claim 9:

The rejection of claim 6 is incorporated. Therefore, claim 9 is rejected under the same rationale as claim 6.

Regarding claim 10:

Bergman et al teaches,

- displaying one or more concept nodes and associated words and/or multimedia content (column 5, lines 44-62, "FIG.2 depicts another...proper client device"; column 7, lines 44-62, "each device or...suitable point therebetween")

- providing means for allowing a user to select related concepts for viewing (Figs. 1-2; column 19, lines 26-49, "a method is...device resolution, etc.")

Regarding claim 11:

Bergman et al further teaches,

- providing means for allowing the user to select concept nodes and associated words and/or multimedia content for display on the basis of specific types or values of relations to a particular concept node or associated word or multimedia content (column 10, lines 1-44, "With reference to...scene transition diagram"; column 19, lines 64-67, "7. Generate annotations...original multimedia content")

Regarding claim 12:

Bergman et al teaches,

- extracting a subset of nodes, relations, and words and/or multimedia content from an encoded media network knowledge representation (column 9, lines 39-54, "In one multimedia...to only metadata")

Regarding claim 13:

Bergman et al further teaches,

- consolidating together concept nodes, relations, words, and/or multimedia content (column 9, lines 55-67, "One of the...illustrated in FIG. 9"; column 10, lines 1-10, "With reference to ... dependency entity description")

Regarding claim 14:

Bergman et al teaches,

- adding, deleting or modifying concepts, relations, or associated words, multimedia content, or descriptors in the encoded media network knowledge representation (column 12, lines 48-50, "Each description data...that data type")

Regarding claim 15:

Bergman et al teaches,

- searching the encoded media network knowledge representation (column 23, lines 22-34, "As we have...to support search")

- retrieving words, content, and/or descriptors from the media network knowledge representation (column 23, lines 34-36, "they also will...search and retrieval")

- searching the information repository using the retrieved words, content, and/or descriptors (column 23, lines 37-43, "Just as in...of the news")

Regarding claim 16:

Bergman et al teaches,

- describing the multimedia information using words or descriptors (Abstract, "A framework is...aggregated multimedia objects")

- describing user preferences using words multimedia content, and/or descriptors (column 3, lines 37-51, "The description scheme...merging of objects, etc."; column 21, lines 65-67, "In one application...to client device"; column 22, lines 1-4, "characteristics and user preferences...of Internet content")

- matching the user preferences with the descriptions of the multimedia information (Fig. 16; column 11, lines 60-67, "In FIG. 16...the lowest fidelity"; column 12, lines 1-11, "level and an...multimedia content source")

- extracting, retrieving, and/or summarizing the matched multimedia items (column 10, lines 38-67, "Fidelity transformation (e.g., 904-909...like to graphics")

Regarding claim 17:

Bergman et al teaches,

- means for forming a network having logical nodes that represent semantic concepts (Figs. 1, 9; column 9, lines 39-67, "In one multimedia...is illustrated in FIG. 9"; column 10, lines 11-29, "Preferably, each connection...the multimedia content")

- means for associating one or more words with one or more of the nodes (column 10, lines 15-37, "It should be...human being), etc."; column 22, lines 40-67, "The video component...for the story")

- means for associating multimedia content with one or more of the nodes (Figs. 11-15; column 10, lines 38-50, "Fidelity transformation (e.g....the present invention"; column 11, lines 1-11, "FIG. 12 illustrates an example...multiple fidelities may exist")

- means for representing relationships between the nodes as arcs between associated words and arcs between associated multimedia content (Figs. 5-6, 15; column 3, lines

17-51, "It is a further...merging of objects, etc."; column 4, lines 20-27, "FIG. 5 is a logical...the present invention"; column 17, lines 49-59, "FIG. 5 shows that...ends after object D")

Regarding claim 18:

Bergman et al further teaches,

- means for searching the knowledge encoded in the network (column 23, lines 22-34, "As we have...to support search")

Regarding claim 19:

Bergman et al further teaches,

- means for browsing the knowledge encoded in the network (column 23, lines 30-53, "Our contention is...limited display capabilities")

Regarding claim 20:

Bergman et al further teaches,

- means for updating the knowledge encoded in the network (column 12, lines 48-50, "Each description data...that data type")

Regarding claim 21:

Bergman et al further teaches,

- means for summarizing the knowledge encoded in the network (column 10, lines 38-67, "Fidelity transformation (e.g., 904-909...like to graphics")

Regarding claim 22:

Bergman et al further teaches,

- means for querying a multimedia information repository associated with the knowledge encoded in the network (column 22, lines 5-9, "While content negotiation...another for retrieval")

Regarding claim 23:

Bergman et al further teaches,

- means for personalizing the knowledge encoded in the network for a particular user (column 3, lines 37-51, "The description scheme...merging of objects, etc."; column 21, lines 65-67, "In one application...to client device"; column 22, lines 1-4, "characteristics and user preferences...of Internet content")

Regarding claim 24:

Bergman et al teaches,

- first instructions for forming a network having logical nodes that represent semantic concepts (Figs. 1, 9; column 9, lines 39-67, "In one multimedia...is illustrated in FIG. 9"; column 10, lines 11-29, "Preferably, each connection...the multimedia content")

- second instructions for associating one or more words with one or more of the nodes (column 10, lines 15-37, "It should be...human being), etc."; column 22, lines 40-67, "The video component...for the story")

- third instructions for associating multimedia content with one or more of the nodes (Figs. 11-15; column 10, lines 38-50, "Fidelity transformation (e.g....the present

invention"; column 11, lines 1-11, "FIG. 12 illustrates an example...multiple fidelities may exist")

- fourth instructions for representing relationships between the nodes as arcs between associated words and arcs between associated multimedia content (Figs. 5-6, 15; column 3, lines 17-51, "It is a further...merging of objects, etc."; column 4, lines 20-27, "FIG. 5 is a logical...the present invention"; column 17, lines 49-59, "FIG. 5 shows that...ends after object D")

Claim Rejections - 35 USC § 103

To expedite this application, a complete examination appears below, despite the presence of the rejection under 35 U.S.C. 101.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the Office presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not

commonly owned at the time a later invention was made in order for the Office to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over *Bergman et al* U.S. Patent Number 6,564,263 (Dated May 13, 2003; Filed December 3, 1999) in view of *Miller* "WordNet: A Lexical Database for English" (November 1995).

Regarding claim 2:

Bergman et al teaches,

- forming a network having nodes that represent semantic concepts (Fig. 9; column 9, lines 39-67, "In one multimedia...is illustrated in FIG. 9"; column 10, lines 11-29, "Preferably, each connection...the multimedia content")
- associating one or more words with one or more of the nodes (column 22, lines 40-67, "The video component...for the story")
- associating multimedia content with one or more of the nodes (Figs. 11-15; column 11, lines 1-11, "FIG. 12 illustrates an example...multiple fidelities may exist")
- representing relationships between the nodes as arcs between associated words and arcs between associated multimedia content (Figs. 5-6, 15; column 3, lines 17-51, "It is a further...merging of objects, etc."; column 4, lines 20-27, "FIG. 5 is a logical...the present invention"; column 17, lines 49-59, "FIG. 5 shows that...ends after object D")
- creating relations between semantic concepts on the basis of one or more of: word forms and word meaning of associated words (column 5, lines 65-67, "a multimedia content...digital form in"; column 6, lines 1-14, "terms of either...and non-terminal

objects"; column 7, lines 2-43, "Multimedia content typically...or semantics pyramid"; column 9, lines 26-38, "the spatial or...object, event, etc."; column 12, lines 24-57, "the multimedia content...data types T1, T2, T3, etc.")

However, *Bergman et al* doesn't explicitly teach creating lexical relations between semantic concepts on the basis of one or more of: word forms and word meaning of associated words while *Miller* teaches,

- creating lexical relations between semantic concepts on the basis of one or more of: word forms and word meaning of associated words (page 39, paragraphs 1-2, "Because meaningful sentences...to be synonymous")

Motivation - The portions of the claimed method would have been a highly desirable feature in this art for

- Supporting syntactic categories (*Miller*, page 40, paragraph 2, "WordNet respects the...explication in WordNet")
- Providing a unified means for describing multimedia content as well as spatial and temporal characteristics between multiple objects (*Bergman et al*, column 2, lines 58-67, "Despite the latest...of multimedia objects")

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made, to combine *Bergman et al* with *Miller* to obtain the invention specified in claim 2, a method for encoding knowledge. The modification would have been obvious because one of ordinary skill in the art would have been motivated to support the ability to describe real world relationships between multiple knowledge and language components.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

- *Chang*; US 5263126 A; Automatic expert system

- *Borgida et al*; US 5806060 A; Interactive data analysis employing a knowledge base

- *Wical*; US 6112201 A; Virtual bookshelf

- *Kobayashi et al*; US 6493692 B1; Information search apparatus and method, and computer readable memory

- *Bergman et al*; US 6564263 B1; Multimedia content description framework

- *Aslandogan et al*; Using semantic contents and WordNet in image retrieval; Proceedings of the 20th annual international ACM SIGIR conference on Research and development in information retrieval; July 1997; Vol. 31 Is. SI

- *Miller*; WordNet: A Lexical Database for English; Communications of the ACM; November 1995; Vol. 38, No. 11; pp 39-41

- *Smith et al*; Visually searching the Web for content; Multimedia, IEEE; Vol. 4, Is. 3; July-Sept. 1997; pp 12-20

- *Mohan et al*; Adapting multimedia Internet content for universal access; Multimedia, IEEE Transactions on; Vol. 1, Is. 1; March 1999; pp 104-114

- *Suzuki et al*; A similarity retrieval of 3D polygonal models using rotation invariant shape descriptors; IEEE International Conference on Systems, Man, and Cybernetics; Vol. 4; 8-11 Oct. 2000; pp 2946-2952

- *Ohm*; Flexible solutions for low-level visual feature descriptors in MPEG-7; Consumer Electronics, International Conference on; 13-15 June 2000; pp 282-283

- *Yang et al*; A semantic classification and composite indexing approach to robust image retrieval; Image Processing, International Conference on; Vol. 1; 1999; pp 134-138

- *Church et al*; Word association norms, mutual information, and lexicography; Computational Linguistics; March 1990; Vol. 16, Is. 1

Any inquiry concerning this communication or earlier communications from the Office should be directed to Meltin Bell whose telephone number is 703-305-0362. This Examiner can normally be reached on Mon - Fri 7:30 am - 4:30 pm.

If attempts to reach this Examiner by telephone are unsuccessful, his supervisor, Anil Khatri, can be reached on 703-305-0282. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

Anthony Knight
Supervisory Patent Examiner
Group 3600

MB/M.B.